



Jeanine A. Poltronieri
Executive Director
External Affairs

AT&T Services, Inc.
1120 20th Street, NW
Suite 1000
Washington, DC 20036
T: 202.457.2042
F: 202.457.2062
C: 202.997.1034

June 5, 2008

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, Room TW-A325
Washington, DC 20554

**Re: WT Docket No. 07-195, Service Rules for Advanced
Wireless Services in the 2155-2175 MHz Band and WT Docket
04-356, Service Rules for Advanced Wireless Services in the
1915-1920 MHz, 1995-2000 MHz and 2175-2180 MHz Bands**

Dear Ms. Dortch:

Consistent with its previously filed comments in these proceedings concerning AWS service rules, AT&T believes that the Commission should ensure that appropriate controls are put in place to prevent interference into the PCS and AWS-1 bands. With regard to the H block, AT&T has previously expressed its views that technical limitations must be adopted for mobile transmissions, including out-of-band-emission limits and power limits. With regard to the use of spectrum at 2155-2175 MHz (or -2180 MHz), AT&T has stated that the downlink only model offers the best means of alleviating interference to adjacent AWS-1 devices. If the Commission decides to allow mobile transmissions in the 2155-2180 MHz band, it must structure the allocation to provide separation from the AWS-1 band and the mobile transmit in 2155-2180 MHz. In addition to making a structured allocation, stringent limits on out-of-band emissions and power would also be needed.

Interference Protection for PCS and AWS-1 Licenses Should be the Commission's Focus As it Sets Technical rules. As a PCS license holder and AWS-1 license holder, AT&T asks the Commission to act decisively to mitigate interference from the H Block and 2155-2180 MHz into those bands. Hundreds of millions of Americans use PCS phones and data devices and have come to expect high quality service. AWS-1 holds promise for deployment of LTE technology – a fourth generation wireless broadband service to compete with DSL, cable and satellite broadband technologies. Hampering deployment in the AWS-1 band, where carriers have already begun deployments, with potential interference from a band that has yet to be auctioned and is years away from development harms the public who could benefit from broadband 3G and 4G/LTE roll-outs much sooner.

If the Commission Decides to Allow Mobile Transmit in the 2125-2180 MHz band, It Must Structure the Allocation: Specifically, AT&T recommends that the Commission provide for downlink only in the initial 10 MHz at 2155-2165 MHz band, allow for

uplink and downlink in the 2165-2175 MHz band and allow for downlink only in 2175-2180 MHz band.

The attached diagrams showing interference scenarios explain why this is so. The illustration on page 4 shows overload and/or receiver blocking from AWS transmitters in 2155-2180 MHz into AWS-1 receivers. Since no filter is perfect, and filtering on mobile devices is challenging because of the small form factor involved, even with state of the art filtering on the AWS-1 mobile device, some amount of the signal from 2155-2180 MHz will get through the AWS-1 mobile device filter. In order to attenuate this AWS-3 signal effectively, 10 MHz of separation is needed, as is the case in PCS H-block. In a similar manner, the out of band emissions from the 2155-2180 MHz band must be limited as this falls directly into the AWS-1 mobile receiver and cannot be removed by the AWS-1 receiving filter.¹

TDD technologies can exist in the Structured Allocation at 2125-2180 MHz:

Broadband technologies require more capacity for downlink traffic than uplink traffic. TDD technologies are no different. Allowing the uplink at 2165-2175 MHz provides sufficient capacity for TDD systems to use this unpaired allocation.

Technical Limitations Must be Adopted for Mobile Transmissions in the 2155-2180 MHz Band as Well as the H-Block: Should the Commission determine to adopt the structured uplink/downlink approach in the 2155-2180 MHz band, additional technical rules will be needed for mobile transmissions, including stringent limits on power and out of band emissions. Significant testing and analysis was undertaken as part of the H-Block proceeding and in that case a 10 MHz guard band was in place to separate the mobile transmission from the mobile receive band. Assuming that the FCC adopts a structured uplink/downlink approach for 2155-2180 MHz as described above, the values AT&T proposed for transmit power and OOB for H-block mobile devices should be adopted for AWS mobile transmit at 2165-2175 MHz.

The attached diagrams showing interference scenarios demonstrate why OOB and power limits are needed on transmissions at 2155-2180 MHz. The illustration on page 3 of the attached document shows how OOB from AWS-3 (2155-2180 MHz) affect the mobile receive band at AWS-1. The OOB energy falls into the receiver pass-band of AWS-1 and thus will not be removed. AT&T endorses an OOB level allowed into the 1930-1990 MHz and 2110-2155 MHz bands of **-66 dBm / MHz**. Note that the proposal for -66 dBm/MHz is based on the current limit for UMTS devices, an accepted industry standard that AT&T Mobility handsets are required to meet in those bands.

¹ These comments reflect reports that the Commission is considering a 25 MHz allocation at 2155-2180 MHz. As stated in AT&T Reply Comments in the AWS proceeding, should the Commission maintain a 20 MHz allocation from 2160- 2180 MHz, the Commission should increase the frequency separation by relocating the AWS base transmit allocation at 2175-2180 MHz to 2155-2160 MHz. See AT&T Reply Comments, WT Docket 07-195, at footnote 7 (filed January 14, 2008).

AWS power must also be limited to control interference. AT&T recommends the following limits on devices operating in the 1915-1920 MHz/1995-2000 H-Block and the 2165-2175 MHz band. AT&T suggests a transmit power (EIRP) of **13 dBm** as it previously suggested in its comments in the H block proceeding.²

Pursuant to the Commission's rules, please place a copy of this letter in the dockets of the above captioned proceedings.

Sincerely,

/s/ Jeanine Poltronieri

Executive Director
AT&T

Attachment

cc: Julius P. Knapp
Ira Keltz
Geraldine Matise
Bruce Romano
Patrick Forster
Jim Schlichting
Joel Taubenblatt
Blaise Scinto
Peter Daranco

² As AT&T has stated previously, the Commission should not consider a "split band" approach in the H-block, but instead impose a uniform power limit across the entire H-block. The uniform power limit will account for temperature variations experienced by PCS mobile units. The uniform power limit will also ensure that technological neutrality is maintained by not favoring technologies employing narrower bandwidths. See Cingular Reply Comments WT Docket No. 04-356, WT Docket no. 02-353 filed February 8, 2005 at 16-19.

AWS-3 Interference Scenarios



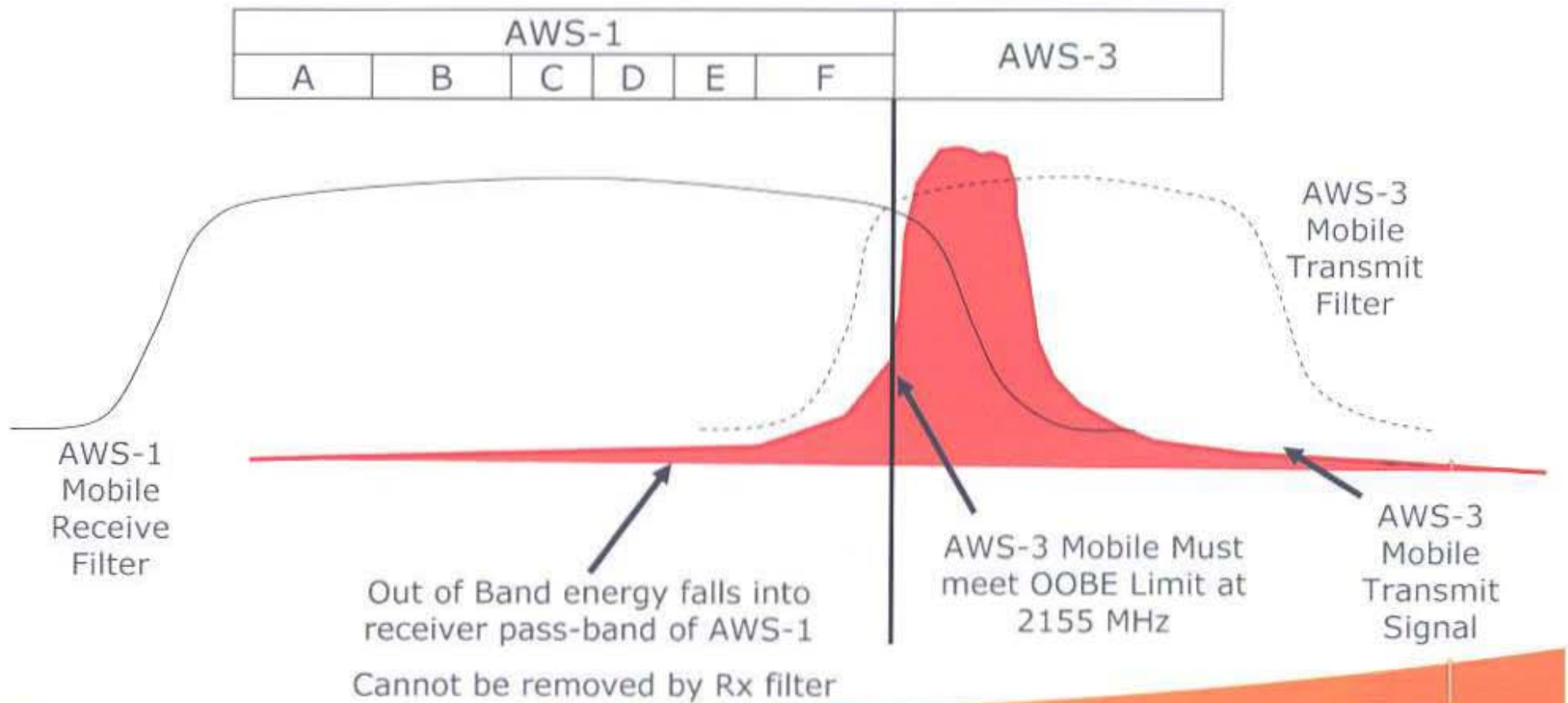
at&t

Introduction

- Interference from 2 sources:
 - Out of band emissions (OOBE) from AWS-3 into AWS-1
 - Overload and/or receiver blocking from AWS-3 transmitters

Out of Band Emissions

- Even with filtering on the AWS-3 mobile transmitter, it will produce some level of out of band emissions that fall into the AWS-1 mobile receivers
 - Cannot be removed by AWS-1 receive filter (in pass-band)
 - Current proposals are for -66 dBm/MHz (UMTS) or -76 dBm/MHz (cdma2000)



Overload / Receiver Blocking

- The AWS-1 receiver can also suffer interference from the AWS-3 transmit signal even though it is outside of the AWS-1 receive band
 - AWS-1 receive filter needs some amount of additional spectrum to effectively attenuate the AWS-3 signal
 - Must be filtered in the AWS-1 receiver, cannot be filtered in the AWS-3 transmitter
 - Current proposal is 10 MHz, similar to PCS H-Block
 - AWS-3 transmit power may also be limited to control interference (e.g. 13 dBm)

